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A.D 1856 . . . . . N° 2529.

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S P E C I F I C A T I O N

OF

WILLIAM ARMAND GILBEE.

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FURNACES.

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LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

25, SOUTHAMPTON BUILDINGS, HOLBORN.







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A.D. 1856 . . . . . N° 2529.

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**Furnaces.**

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**LETTERS PATENT** to William Armand Gilbee, of No. 4, South Street, Finsbury, London, and 39, Rue de l'Echiquier, Paris, in the Empire of France, Patent Agent, for the Invention of "IMPROVEMENTS IN THE CONSTRUCTION OF SMOKE-CONSUMING FURNACES."—A communication.

Sealed the 24th April 1857, and dated the 28th October 1856.

*(Void by reason of the Patentee having neglected to file a Specification in pursuance of the conditions of the Letters Patent.)*

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**PROVISIONAL SPECIFICATION** left by the said William Armand Gilbee at the Office of the Commissioners of Patents, with his Petition, on the 28th October 1856.

I, WILLIAM ARMAND GILBEE, of No. 4, South Street, Finsbury, London, 5 and 39, Rue de l'Echiquier, Paris, in the Empire of France, Patent Agent, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE CONSTRUCTION OF SMOKE-CONSUMING FURNACES," to be as follows, that is to say :—

These improvements relate to a peculiar construction of furnaces, in which 10 superheated steam is injected upon the incandescent fuel, for the purpose of effecting the combustion of the smoke, and thereby producing an economy of fuel. The furnace, which is constructed of fire brick or refractory earth, is furnished with an iron grate of the ordinary description, over which are placed in an arched chamber one or more small cylindrical boilers containing water

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*Gilbee's Improvements in the Construction of Smoke-consuming Furnaces.*

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supplied from a suitably placed reservoir. These boilers communicate by a pipe or pipes with another large boiler, in which the steam becomes superheated previous to passing out at the top into a pipe with two branches, each branch pipe descending vertically by the side and under the small boilers into a horizontal tube, composed of fire clay, pierced with a number of small holes, 5 so that the steam is forcibly ejected upon the burning fuel below. On each side of the arched boiler chamber is a flue or passage, in which is placed the fuel for feeding the furnace. The mouths of the passages open either on the side, top, or are both connected to a central hopper provided with a slide. In each case the top of the passage or flue is supplied with a door or cover 10 above the bottom of each flue, rounded off to cause the fuel to fall. On the grate is a register, by which the supply of fuel to the fire-place is regulated, and which register is so constructed that the gaseous matters from the furnace are not able to escape. If necessary, the carbonic acid gas generated in the furnace may be absorbed by lime water to form a carbonate of lime. 15

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Printers to the Queen's most Excellent Majesty. 1857.